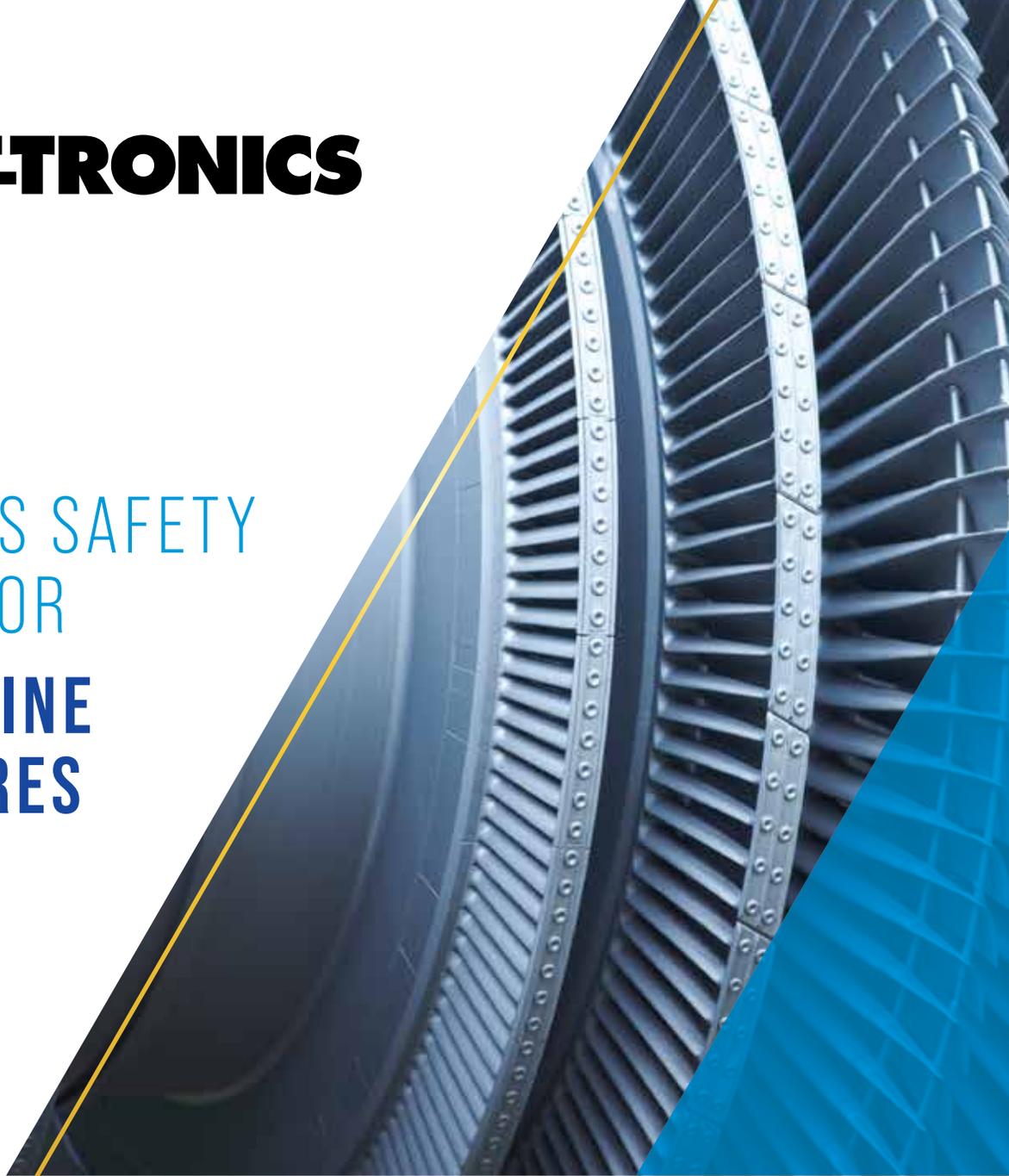




# DET-TRONICS

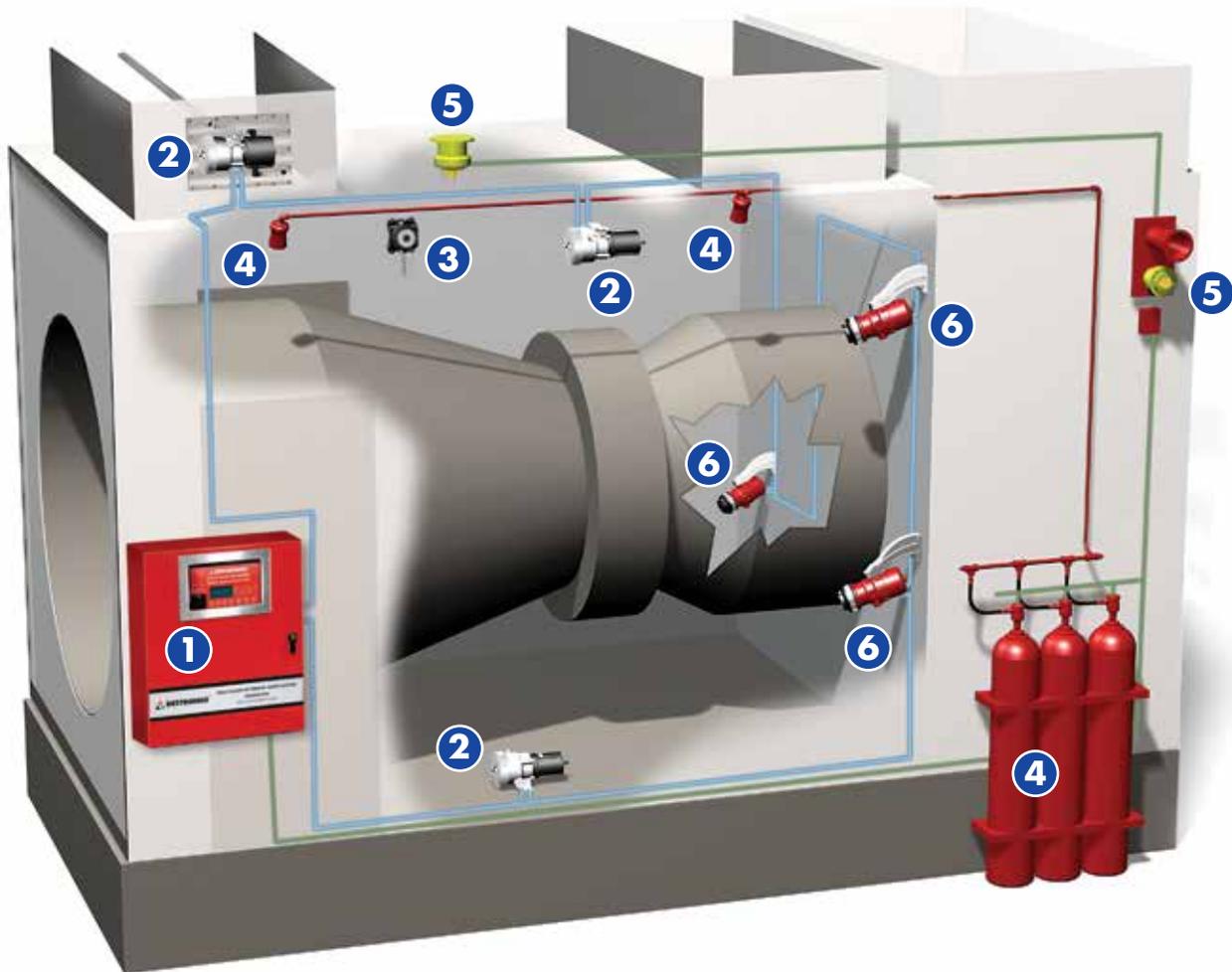
CERTIFIED  
FIRE & GAS SAFETY  
SYSTEM FOR  
**GAS TURBINE  
ENCLOSURES**



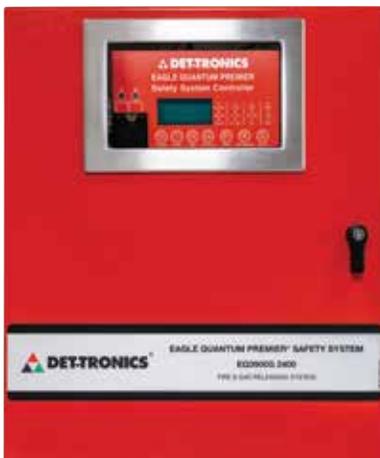
**Fire & gas detection  
and releasing system  
designed to monitor  
and protect gas turbines**

## Certified Fire & Gas Safety System for Gas Turbine Enclosures

Det-Tronics offers an engineered fire and gas detection and releasing system designed to monitor and protect gas turbines. The components of this fire and gas safety system include high-performance flame and gas detectors that are globally certified.



### Eagle Quantum Premier® (EQP) Safety System



- 1 The **Safety System** manages and controls the fire and gas detection/releasing system. It is a listed, configurable, distributed, and intelligent safety system that provides fire and gas detection, alarm signaling, notification, extinguishing agent release, and deluge operation. All system components are integrated together on a fault-tolerant Class X SLC digital communication network. The certified SIL 2-capable system has a robust design with enclosure options that include General Purpose NEMA 4, Explosion-Proof Class 1 Div 2 and Explosion-Proof Class 1 Div 1.



Eagle Quantum Premier® (EQP)  
Safety System Controller

# Key Components of Det-Tronics Fire and Gas System



- 2 Infrared Gas Detectors** provide accurate point detection of combustible hydrocarbon gases and measures in the LFL range. The Eclipse detector provides continuous self-testing and is immune to most poisons. The Eclipse uses stainless steel construction and is available in duct mount options.  
**PointWatch Eclipse® PIRECL**



- 3 Heat Detectors** are sensing devices that warn of excessive heat or fire and can send an output to the Safety System for notification/signaling or actuation of a suppression system.  
**HD Heat Detector**



- 4 Fire Suppression** agents for gas turbine enclosures include water mist and carbon dioxide (CO<sub>2</sub>). Water mist suppression systems are typically pre-engineered systems that are listed/approved by a recognized agency to standard NFPA 750. CO<sub>2</sub> systems are designed using the 'total flooding' method in accordance with NFPA 12.  
**Fire Suppression**



- 5 Notification Devices** provide audible or visual notification of a potential emergency. These appliances include horns, strobes, beacons, and combination units. In the event of a detected fire, the EQP control panel activates the notification appliances to provide pre-discharge alarm to people in the area.  
**Notification Devices**



- 6 Multispectrum Infrared Flame Detectors** are FM Approved for hydrogen, methane, methanol and Syngas fires. Also reliably detects heavy hydrocarbon lube oil fires. These detectors have patented detection algorithms, heated optics and signal processing features, which provide false alarm rejection while simultaneously maintaining necessary fire detection capabilities.  
**X3301 & X3302 Multispectrum Infrared Flame Detectors**

## Det-Tronics Fire & Gas Systems

- Pre-action releasing system approved to FM3010 in accordance with NFPA 72®: National Fire Alarm and Signaling Code, 2013 Edition
- Fault-tolerant Class X flame, gas and releasing signaling line circuit (SLC)
- Certified for Class 1 Division 2 hazardous locations
- Listed systems available in pre-configured cabinets
- Multiple communication options:
  - RS 485 Modbus RTU
  - Ethernet/Modbus TCP/IP
  - EtherNet IP™, DLR
  - ControlNet™



## Turbine Fire Safety Codes, Standards and Guidelines

There are multiple codes and standards applicable to turbine fire and gas safety systems. The National Fire Protection Association (NFPA) has recognized standards for this application. Det-Tronics can assist you by providing a listed, code-compliant solution.

**NFPA 37® – Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines** is the most prevalently used standard for stationary combustion engines and stationary gas turbines.

**NFPA 72® – National Fire Alarm and Signaling Code** provides the safety provisions for fire detection and signaling.

Considerations for code usage include:

1. Location and local/regional code requirements
2. Authority Having Jurisdiction (AHJ)
3. Project and customer specifications
4. Corporate Loss Prevention Engineer
5. Insurance Underwriter

Codes, standards and guidelines that address turbine fire safety:

- NFPA 37® – Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines
- API STD 616 – Gas Turbines for the Petroleum, Chemical, and Gas Industry Services
- FM Global Property Loss Prevention Data Sheet 7-79 – Fire Protection for Gas Turbines and Electric Generators

Referenced within the above are:

- NFPA 12® – Standard on Carbon Dioxide Extinguishing Systems
- NFPA 70® – National Electrical Code®
- NFPA 72® – National Fire Alarm and Signaling Code®
- NFPA 750® – Standard on Water Mist Fire Protection Systems

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